

REMARKS

Claims 1-46 are pending in this application. By this Amendment, the drawings and claims 1, 3-12, 14, 16-18, 20, 21, 23, 24, 26-28, 30, 31, 33, 34, 36-38, 40, 41, 43 and 46 are amended. The claims are amended in response to the objection, as well as the rejection of the claims under 35 U.S.C. §112, second paragraph. The claims are not amended in reply to a substantive rejection. No new matter is added.

The drawings are objected to as failing to comply with 37 C.F.R. §1.84(p)(5). Specifically, the Office Action alleges that the figures do not show reference number 7-1 described in paragraph [0036] of the specification. Figures 6 and 7 are amended in reply to objection. Accordingly, Applicants respectfully request the objection be withdrawn.

Claims 3-12, 14-20, 24-26, 31-40 and 46 are objected to for various informalities. The claims are amended in reply to the objection. Thus, Applicants respectfully request the objection to the claims be withdrawn.

Claims 1-46 are rejected under 35 U.S.C. §112, second paragraph. The claims are amended in reply to the rejection. Accordingly, Applicants respectfully request the rejection of claims 1-46 under 35 U.S.C. §112, second paragraph, be withdrawn.

Claims 1, 2, 13, 44 and 45 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,470,491 to Kodama et al. (Kodama). The rejection is respectfully traversed.

Applicants assert that Kodama does not disclose each and every step recited in the rejected claims. For example, Kodama does not disclose a method for fabricating a resist pattern, comprising steps of forming a pre-resist pattern through exposure treatment and development treatment, and ash-treating the pre-resist pattern to form a narrowed resist pattern. A

The Office Action alleges that Kodama discloses a step to "further shrink or narrow and remove the photoresist pattern" at col. 2, lines 34-39. However, Kodama does not

disclose such a step. Rather, Kodama discloses a photoresist being used as an etching mask, the pattern of the insulation layer being formed by etching with a plasma of oxygen and a freon containing at least one member selected from among CF₄, SF₆ and CHF₃, and the photoresist mask being subsequently removed by ashing. Thus, Kodama does not disclose ash-treating the pre-resist pattern to form a narrowed resist pattern, as recited in the rejected claims.

In Kodama, the pre-resist pattern 112 is formed on the organic silicon resin layer by a photomechanical process (see Fig. 1D). Subsequently, the assembly is exposed to the oxygen freon plasma 13, i.e., ashing, so that the silicon resin is etched in the pattern of the photoresist layer (Fig. 1E). Then, the photoresist mask is subjected to additional ashing with the oxygen plasma 14 to completely remove the photoresist mask 112 (Fig. 1F). Accordingly, Kodama does not disclose ash treating the pre-resist pattern to form a narrowed resist pattern.

In contrast, claim 1 recites forming a pre-resist pattern through exposure treatment and development (see Fig. 5 showing a pre-resist pattern 6). The pre-resist pattern is then ash-treated to form a narrowed resist pattern as shown in Fig. 6 of the instant application. Thus, unlike Kodama, the pre-resist pattern is not completely removed by the ashing step but rather is narrowed. Accordingly, Applicants respectfully request the rejection of claims 1, 2, 13, 44 and 45 under 35 U.S.C. §102(b) be withdrawn.

Claim 2 is further rejected under 35 U.S.C. §103(a) as unpatentable over Kodama in view of U.S. Patent No. 5,811,358 to Tseng et al. (Tseng). Claims 3 and 4 are rejected under 35 U.S.C. §103(a) as unpatentable over Kodama in view of U.S. Patent No. 5,604,073 to Krounbi et al. (Krounbi); claims 5, 16, 26 and 36 are rejected under 35 U.S.C. §103(a) as unpatentable over Kodama in view of Krounbi, further in view of U.S. Patent No. 5,820,770 to Cohen et al. (Cohen) and further in view of U.S. Patent No. 5,721,078 to Kamijima; claims 6-8 are rejected under 35 U.S.C. §103(a) as unpatentable over Kodama in view of either U.S.

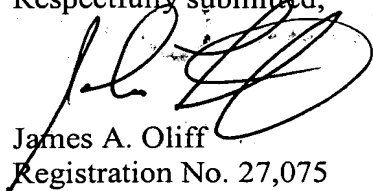
Patent No. 4,444,869 to Chonan et al. or Kamijima; claims 9, 20, 30 and 40 are rejected under 35 U.S.C. §103(a) as unpatentable over Kodama in view of Cohen and further in view of Chonan or Kamijima; claims 10 and 11 are rejected under 35 U.S.C. §103(a) as unpatentable over Kodama in view of U.S. Patent No. 4,894,311 to Uenishi et al. (Uenishi); claims 12, 23, 33 and 43 are rejected under 35 U.S.C. §103(a) as unpatentable over Kodama in view of Cohen, further in view of Kamijima and further in view of Uenishi; claims 14, 24, 34 and 46 are rejected under 35 U.S.C. §103(a) as unpatentable over Kodama in view of Krounbi and further in view of Cohen or Kamijima; claims 15, 25 and 35 are rejected under 35 U.S.C. §103(a) as unpatentable over Kodama in view of Krounbi, further in view of Cohen and further in view of Tseng; claims 17, 18, 27, 28, 37 and 38 are rejected under 35 U.S.C. §103(a) as unpatentable over Kodama in view of Cohen and further in view of either Chonan or Kamijima; claims 19, 29 and 39 are rejected under 35 U.S.C. §103(a) as unpatentable over Kodama in view of Cohen, further in view of Chonan or Kamijima and further in view of Tseng; claims 21, 31 and 41 are rejected under 35 U.S.C. §103(a) as unpatentable over Kodama in view of Cohen and further in view of Uenishi; and claims 22, 32 and 42 are rejected under 35 U.S.C. §103(a) over Kodama in view of Cohen, further in view of Uenishi and further view of Tseng. The rejections are respectfully traversed.

As each of the rejections rely on the primary reference of Kodama, Applicants submit that the rejected claims are allowable for at least the reasons discussed above regarding Kodama, as well as for the additional features recited therein. For example, none of the other applied references of record disclose, nor are they alleged to disclose, that the pre-resist pattern is ash-treated to form a narrowed resist pattern.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,


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Amendments to the Drawings:

The attached replacement drawing sheets make changes to Figs. 6 and 7 and replace the original sheets with Figs. 4-9.

Attachment: Replacement Sheets